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EXAMINER

ANTHONY, JOSEPH DAVID

ART UNIT

PAPER NUMBER

1714

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18

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/603,764

Applicant(s)

MARTIN, ROY

Examiner

Joseph D. Anthony

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 3/12/03, 3/28/03, and 10/23/02.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 17-57 is/are pending in the application.
- 4a) Of the above claim(s) 20-39 and 48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-19, 40-47 and 49-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 16 and 1 6) ☐ Other: \_\_\_\_\_

## **FINAL REJECTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 17-19, 40-44, 46-47, 52, and 54-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derule et al. U.S. Patent Number 5,814,247 in view of "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760.

Derule et al teaches aqueous solutions for the cold working corrosion protection treatment of steel sheet. The solutions contain a water soluble salt of heptanoic acid, and oxidizing agent, such as sodium perborate, and preferably a wetting agent and pH adjusting agents. When the solution is applied to steel sheets it forms a protective passivating layer on the steel sheets, see the abstract, column 4, lines 7-18, column 5, lines 6-16, and Examples 2-4.

Derule et al differs from applicant's claimed invention in the following ways: 1) there is no direct disclosure to applicant's claimed steps of "determining an activity factor of the metal" or "monitoring an electrochemical noise of the metal", and 2) the examples, such as Examples 2-4, do not seem to expressively disclose flushing the oxidizer from the surface of the metal after the metal has been passivated.

It would have been obvious to one having ordinary skill in the art to use the clear teachings of either "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760 that the determination of "an activity factor of a metal" or "monitoring an electrochemical noise of a metal" are well known techniques in the corrosion art to determine/predict the extent of metal corrosion, as motivation to actually perform such activities.

It would also have been obvious to one having ordinary skill in the art to perform such a flushing step in light of Derule et al's disclosure as a whole, see column 2, line 8 to column 3, line 2. Note that Derule et al. discloses treating steel sheets with the disclosed passivating composition wherein these steel sheets are manufactured into

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welded pipes. A flushing step would thus be at once envisaged by one having ordinary skill in the art in such a process.

4. Claims 45, 50-51, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derule et al. U.S. Patent Number 5,814,247 in view of anyone one of the following: Freese et al. U.S. Patent Number 5,575,920 or Chen et al. U.S. Patent Number 4,913,822 or Kessler et al. U.S. Patent Number 5,866,013, all said combination further in view of "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760. Derule et al has been described above. Derule et al further differs from applicant's claimed invention in that there is no direct disclosure to the addition of a deposit control agent, a chelating agent or a sequestering agent.

Freese et al., Chen et al., and Kessler et al individual disclose compositions and methods of inhibiting scale formation and corrosion of metal surfaces. The individual references are full of teachings to the use of scale inhibitors, anti-corrosion compounds such as sequestering and chelating agents, see their abstracts as well as column 4, lines 6-30 of Freese et al., and column 5, lines 9-26 of Kessler et al..

It would have been obvious to one having ordinary skill in the art to use the disclosure of anyone of the secondary references as motivation to add a deposit control agent, a chelating agent or a sequestering agent to the solution disclosed by Derule et al for the benefits that such additional compounds are disclosed to have by the secondary references.

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5. Claims 17-19, 40-44, 46-47, 49, 54-55, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goudiakas et al. U.S. Patent Number 6,120,619 in view of "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760.

Goudiakas et al teaches passivation of stainless steel in an aqueous organosulphonic acid medium that contains at least one oxidizing agent, such as persulfate, see the abstract. The method of passivation comprises applying the above solution to the surface of the stainless steel and then after passivation flushing or rinsing the solution from the treated stainless steel, see column 3, lines 20-59, and the examples especially Example 5.

Goudiakas et al differ from applicant's claimed invention in the following ways: 1) there is no direct disclosure to applicant's claimed steps of "determining an activity factor of the metal" or "monitoring an electrochemical noise of the metal", and 2) that there is no direct teaching (i.e. by way of an example) to where a hydrogen peroxide donor is actually used as the oxidizer source.

It would have been obvious to one having ordinary skill in the art to use the clear teachings of either "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760 that the determination of "an activity factory of a metal" or "monitoring an electrochemical noise of a metal" are well known techniques in the corrosion art to determine/predict the extent of metal corrosion, as motivation to actually perform such activities.

It would also have been obvious to one having ordinary skill in the art to use the broad disclosure of the Goudiakas et al as motivation to actually use a hydrogen peroxide donor source since such as source is directly disclosed by the patent, see the abstract, and column 2, lines 51-67.

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6. Claims 45, 50-53 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goudiakas et al. U.S. Patent Number 6,120,619 in view of anyone one of the following: Freese et al. U.S. Patent Number 5,575,920 or Chen et al. U.S. Patent Number 4,913,822 or Kesslet et al. U.S. Patent Number 5,866,013 or (Derule et al. U.S. Patent Number 5,814,247 for claim 52 only), all said combinations further in view of "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760.

Goudiakas et al has been described above. Goudiakas et al differ from applicant's claimed invention in that there is no direct disclosure to the addition of a deposit control agent, a chelating agent or a sequestering agent and a dispersing agent.

Freese et al., Chen et al., and Kessler et al individual disclose compositions and methods of inhibiting scale formation and corrosion of metal surfaces. The individual references are full of teachings to the use of scale inhibitors, anti-corrosion compounds such as sequestering and chelating agents, and dispersing agent, see their abstracts as well as column 4, lines 6-30 of Freese et al., and column 5, lines 9-26 of Kessler et al..

It would have been obvious to one having ordinary skill in the art to use the disclosure of anyone of the secondary references as motivation to add a deposit control agent, a chelating agent, a sequestering agent or a dispersing agent to the solution disclosed by Goudiakas et al for the benefits that such additional compounds are disclosed to have by the secondary references.

Applicant's claim 52 is further deemed to be very obvious in light of Derule et al. U.S. Patent Number 5,814,247 which clearly teaches that dispersing agents are well in the art to be used in passivation process of metal surfaces using oxidizers, see column 5, lines 56-16. As such to add such dispersing agents to Goudiakas et al process is deemed to be very obvious.

7. Claims 17-19, 44, 46-47, 49 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 504 621 A1 in view of "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760.

EP teaches a system for the passivation of metal surfaces affected by operating conditions and agents promoting corrosion. The process comprises applying to the metal surface a composition comprising gaseous oxygen, either as air or pure oxygen in combination with a secondary oxidizer which is preferably a peroxide source, such as hydrogen peroxide or organic peroxides, see abstract, page 2, lines 26-51, page 3, lines 26-31, and the examples.

EP differs from applicant's claimed invention in the following ways: 1) there is no direct disclosure to applicant's claimed steps of "determining an activity factor of the metal" or "monitoring an electrochemical noise of the metal", 2) the examples do not seem to expressively disclose flushing the oxidizer from the surface of the metal after the metal has been passivated, 3), the examples do not use a hydrogen peroxide donor

It would have been obvious to one having ordinary skill in the art to use the clear teachings of either "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760 that the determination of "an activity factor of a metal" or "monitoring an electrochemical noise of a metal" are well known techniques in the corrosion art to determine/predict the extent of metal corrosion, as motivation to actually perform such activities.

It would also have been obvious to one having ordinary skill in the art to perform such a flushing step in light of EP's disclosure as a whole. Furthermore, the use of a hydrogen peroxide source as the secondary oxidizer source would have been obvious since such sources are expressively disclosed by the reference.



8. Claims 52 and 56-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 504 621 A1 in view of Derule et al. U.S. Patent Number 5,814,247 further in view of "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760.

EP has been described above and further differs from applicant's claimed invention in that there is no direct disclosure to adding a dispersing agent, adjusting the pH of the passivating composition and added a non-oxidizing inhibitor to the passivating composition.

It would have been obvious to one having ordinary skill in the art to use the disclosure of Derule to adding a dispersing agent, adjusting the composition pH and adding a non-oxidizing inhibitor to oxidant containing passivating composition as the motivation to add such components the compositions used by EP for the benefits disclosed by Derule et al..

9. Claims 50-51 and 53 rejected under 35 U.S.C. 103(a) as being unpatentable over EP 504 621 A1 in view of anyone one of the following: Freese et al. U.S. Patent Number 5,575,920 or Chen et al. U.S. Patent Number 4,913,822 or Kesslet et al. U.S. Patent Number 5,866,013, all said combination further in view of "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760.

EP has been described above. EP further differs from applicant's claimed invention in that there is no direct disclosure to the addition of a deposit control agent, a chelating agent or a sequestering agent and a dispersing agent.

Freese et al., Chen et al., and Kessler et al individual disclose compositions and methods of inhibiting scale formation and corrosion of metal surfaces. The individual references are full of teachings to the use of scale inhibitors, anti-corrosion compounds such as sequestering and chelating agents, and dispersing agent, see their abstracts as well as column 4, lines 6-30 of Freese et al., and column 5, lines 9-26 of Kessler et al..

It would have been obvious to one having ordinary skill in the art to use the disclosure of anyone of the secondary references as motivation to add a deposit control agent, a chelating agent, a sequestering agent or a dispersing agent to the composition disclosed by EP for the benefits that such additional compounds are disclosed to have by the secondary references.

10. Claims 17-19, 40-44, 46-47, 50-51, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 89/08728 in view of "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760.

WO teaches a process for treating metallic surfaces for protection again corrosive liquids. The process comprises contacting the metal surface with a solution containing a peroxide source, such as hydrogen peroxide, to form a protective oxide layer on the metal surface. The peroxide solution may also contain stabilizers for the peroxide, see the abstract, claims and Example 2.

WO differs from applicant's claimed invention in the following ways: 1) there is no direct disclosure to applicant's claimed steps of "determining an activity factor of the metal" or "monitoring an electrochemical noise of the metal", 2) the examples do not seem to expressively disclose flushing the oxidizer from the surface of the metal after the metal has been passivated, and 3) there is no direct teaching (i.e. by way of an

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example) to where chelating agents or sequestering agents are added to the peroxide containing solution.

It would have been obvious to one having ordinary skill in the art to use the clear teachings of either "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760 that the determination of "an activity factory of a metal" or "monitoring an electrochemical noise of a metal" are well known techniques in the corrosion art to determine/predict the extent of metal corrosion, as motivation to actually perform such activities.

It would have also been obvious to one having ordinary skill in the art to perform such a flushing step in light of WO's disclosure as a whole. Furthermore, the addition of sequestering or chelating agents to the oxidizer solution would have been obvious since such additives are suggested by the reference, see Example 2.

11. Claims 52 and 56-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 89/08728 in view of Derule et al. U.S. Patent Number 5,814,247 further in view of "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760.

WO has been described above and further differs from applicant's claimed invention in that there is no direct disclosure to adding a dispersing agent, adjusting the pH of the passivating composition and added a non-oxidizing inhibitor to the passivating composition.

It would have been obvious to one having ordinary skill in the art to use the disclosure of Derule to adding a dispersing agent, adjusting the composition ph and adding a non-oxidizing inhibitor to oxidant containing passivating composition as the motivation to add such components the compositions used by WO for the benefits disclosed by Derule et al..

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12. Claims 45 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 89/08728 in view of anyone one of the following: Freese et al. U.S. Patent Number 5,575,920 or Chen et al. U.S. Patent Number 4,913,822 or Kesslet et al. U.S. Patent Number 5,866,013, all said combination further in in view of "XP-001073846 Electrochemical Noise Resistance as a Tool for Corrosion Rate Prediction", or WO 00/34760.

EP has been described above. EP further differs from applicant's claimed invention in that there is no direct disclosure to the addition of a deposit control agent.

Freese et al., Chen et al., and Kessler et al individual disclose compositions and methods of inhibiting scale formation and corrosion of metal surfaces. The individual references are full of teachings to the use of scale inhibitors, anti-corrosion compounds such as sequestering and chelating agents, and dispersing agent, see their abstracts as well as column 4, lines 6-30 of Freese et al., and column 5, lines 9-26 of Kessler et al..

It would have been obvious to one having ordinary skill in the art to use the disclosure of anyone of the secondary references as motivation to add a deposit control agent to the composition disclosed by WO for the benefits that such additional compounds are disclosed to have by the secondary references.

### ***Double Patenting***

13. Claims 17-19, 40-45, 46-47 and 49-57 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable

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over all pending claims of copending Application No. 10/013,879. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending claims in the daughter application have now been amended by applicant's representative to be a subset of the pending claims of this application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Response to Arguments***

14. Applicant's arguments filed 3/12/03 have been fully considered but are not persuasive to put the application in condition for allowance for the reasons set forth above in the new grounds of rejections.

### ***Conclusion***

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

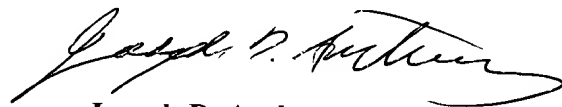
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Examiner Information***

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (703) 308-0446. This examiner can normally be reached on Monday through Thursday from 7:35 a.m. to 6:00 p.m. in the eastern time zone. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The group (**non-after final**) FAX machine number is (703) 872-9310. The group (**after final**) FAX machine number is (703) 872-9311. Unofficial correspondence transmitted by FAX must be marked "DRAFT". All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner. Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0651. The receptionist is located on the 8<sup>th</sup> floor of Crystal Plaza 3 (e.g. CP-3) and will be the welcome point for all visitors to the building.



Joseph D. Anthony  
Primary Patent Examiner  
Art Unit 1714

6/2/03